# Calculating – adding decimal fractions

How do we add decimal fractions using a written strategy?

We arrange the numbers so the place values line up and then we start with the smallest value.

We first add the tenths. 9 tenths and 4 tenths is 13 tenths.

We rename this as 1 unit and 3 tenths.

We write the 3 in the tenths column and move the unit to the units column.

Then we add the units. 1 + 4 + 6 = 11

Don't forget the decimal point in your answer!

$$\begin{array}{r} {}^{1}4.9 \\ +\ 6.4 \\ \hline 11.3 \end{array}$$

**1** **Add these decimal numbers. The first one has been done for you.**

a $\begin{array}{r} 4\,2.3 \\ +\ 3\,4.4 \\ \hline 7\,6.7 \end{array}$

b $\begin{array}{r} 8\,4.2 \\ +\ 3\,4.6 \\ \hline 118.8 \end{array}$

c $\begin{array}{r} 6\,0.4 \\ +\ 2\,5.1 \\ \hline 85.5 \end{array}$

d $\begin{array}{r} 3.07 \\ +\ 9.2 \\ \hline 12.27 \end{array}$

e $\begin{array}{r} 4.1 \\ +\ 3.44 \\ \hline 7.54 \end{array}$

f $\begin{array}{r} 7.02 \\ +\ 1.87 \\ \hline 8.89 \end{array}$

g $\begin{array}{r} 47.2 \\ +\ 26.07 \\ \hline 73.27 \end{array}$

h $\begin{array}{r} 45.71 \\ +\ 31.34 \\ \hline 77.05 \end{array}$

i $\begin{array}{r} 64.23 \\ +\ 10.4 \\ \hline 74.63 \end{array}$

**2** **We use the same process when adding more than two numbers. Add these bills:**

| | |
|---|---|
| 1 cola | $2.80 |
| 1 lime milkshake | $3.25 |
| 4 dim sims | $4.80 |
| 3 crab cakes | $2.60 |
| **Total** | $13.45 |

| | |
|---|---|
| 1 child's entry ticket | $15.60 |
| 1 disposable camera | $ 7.95 |
| 3 fridge magnets | $15.45 |
| 1 t-shirt – medium | $22.99 |
| **Total** | $61.99 |




# Calculating – adding decimal fractions

**3** **Use a mental or written strategy of your choice to solve these problems:**

**a** Add 16.05 and 5.64

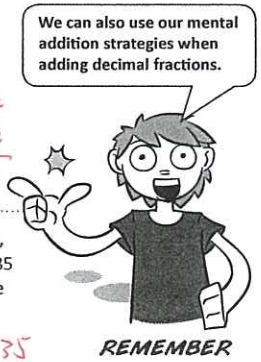
16.05 + 5.64
= 21.69

16.05
+ 5.64
21.69

**b** Add 122.54 and 47.12

122.54 + 47.12
= 169.66

122.54
+ 47.12
169.66




**c** Bob decided it was time to drop some weight before the big game. He lost 3.63 kg in the first week and 1.25 kg in the 2nd week. How much weight did he lose altogether?

3.63 + 1.25
= 4.88
He lost 4.88kg of weight altogether.

**d** Kate spent $13.65 at one shop, $4.59 at the second, and $17.35 at the third. How much did she spend altogether?

13.65 + 4.59 + 17.35
= 35.59
She spent $35.59 altogether.

**4** **Use a mental or written strategy of your choice to complete these magic number squares. Remember in magic number squares, each row, column and diagonal adds to give the magic number. Your knowledge of inverse operations will come in handy.**

**The magic number is 4.5**

| | | |
|---|---|---|
| 1.2 | 0.9 | 2.4 |
| 2.7 | 1.5 | 0.3 |
| 0.6 | 2.1 | 1.8 |

**The magic number is 6.0**

| | | |
|---|---|---|
| 3.2 | 0.4 | 2.4 |
| 1.2 | 2.0 | 2.8 |
| 1.6 | 3.6 | 0.8 |

**The magic number is 1.5**

| | | |
|---|---|---|
| 0.2 | 0.9 | 0.4 |
| 0.7 | 0.5 | 0.3 |
| 0.6 | 0.1 | 0.8 |

Use this space for any working out:

# Calculating – subtracting decimal fractions

How do we subtract decimal fractions using a written strategy?

We arrange the numbers so the place values line up and then we start with the smallest value.

We first subtract the tenths. We have 4 tenths, can we subtract 5 tenths?

No, so we rename a unit as 10 tenths. Now we have 14 tenths. 14 tenths subtract 5 tenths is 9 tenths.

We have 5 units, can we takeaway 3 units? Yes, the answer is 2.

$$\begin{array}{r} {}^{5}\cancel{6}\,.\,{}^{1}4 \\ -\ 3\ .\ 5 \\ \hline 2\ .\ 9 \end{array}$$

**1** **Solve these problems:**

**a** $\begin{array}{r} 4\,2\,.\,5 \\ -\ 3\,4\,.\,4 \\ \hline 8.1 \end{array}$ **b** $\begin{array}{r} 8\,6\,.\,2 \\ -\ 3\,4\,.\,6 \\ \hline 51.6 \end{array}$ **c** $\begin{array}{r} 3\,2\,.\,7 \\ -\ 2\,0\,.\,4 \\ \hline 12.3 \end{array}$

**d** $\begin{array}{r} 7\,.\,4\,0 \\ -\ 5\,.\,2\,5 \\ \hline 2.15 \end{array}$ **e** $\begin{array}{r} 2\,.\,4\,7 \\ -\ 2\,.\,1\,5 \\ \hline 0.32 \end{array}$ **f** $\begin{array}{r} 6\,.\,7\,2 \\ -\ 4\,.\,5\,1 \\ \hline 2.21 \end{array}$

**g** $\begin{array}{r} 3\,2\,.\,8\,5 \\ -\ 2\,1\,.\,6\,3 \\ \hline 11.22 \end{array}$ **h** $\begin{array}{r} 7\,4\,.\,1\,4 \\ -\ 1\,2\,.\,0\,1 \\ \hline 62.13 \end{array}$ **i** $\begin{array}{r} 7\,6\,.\,3\,3 \\ -\ 2\,0\,.\,2\,5 \\ \hline 56.08 \end{array}$

Sometimes we have to work with numbers that have a different amount of digits such as 8.4 – 5.35

When this happens, we rename. 4 tenths becomes 40 hundredths: 8.40 – 5.35

**2** **Rename these problems and solve:**

**a** $\begin{array}{r} 1\,6\,.\,5 \\ -\ 3\,.\,3\,8 \\ \hline 13.12 \end{array}$ **b** $\begin{array}{r} 7\,.\,1\,7 \\ -\ 3\,.\,4 \\ \hline 3.77 \end{array}$ **c** $\begin{array}{r} 8\,9\,.\,2 \\ -\ 4\,.\,7\,2 \\ \hline 84.48 \end{array}$



# Calculating – subtracting decimal fractions

**3** **Use a mental or written strategy of your choice to solve these problems:**

**a** 125.47 – 9.08

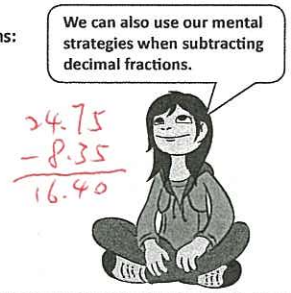
= 116.39

$\begin{array}{r} 125.47 \\ -\ 9.08 \\ \hline 116.39 \end{array}$

**b** 24.75 – 8.35

= 16.4

$\begin{array}{r} 24.75 \\ -\ 8.35 \\ \hline 16.40 \end{array}$




**c** Donny spent $25.50 on a new memory card for his phone. The next day it appeared on special for $17.95. If he had waited another day, how much would he have saved?

25.50 – 17.95

= 7.55

He would have saved $7.55

$\begin{array}{r} 25.50 \\ -\ 17.95 \\ \hline 7.55 \end{array}$

**d** Natasha buys *Complete Girl* at $4.95 an issue. Her sister Nina buys *Dolly* at $5.70 an issue. How much more does Nina spend?

5.70 – 4.95

= 0.75

Nina spends $0.75 more

$\begin{array}{r} 5.70 \\ -\ 4.95 \\ \hline 0.75 \end{array}$

**4** **Find the answers to these problems and solve the riddle: *Why did the man freeze his money?***

| H | E | | W | A | N | T | E | D | | C | O | L | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7.7 | 19.9 | | 36.41 | 11.5 | 142.4 | 13.05 | 19.9 | 27.4 | | 10.32 | 17.93 | 10.3 | 27.4 |

| H | A | R | D | | C | A | S | H |
|---|---|---|---|---|---|---|---|---|
| 7.7 | 11.5 | 17.4 | 27.4 | | 10.32 | 11.5 | 14.77 | 7.7 |

| | | | |
|---|---|---|---|
| A | 7.2 + 4.3 = 11.5 | T | 5.16 + 7.89 = 13.05 |
| W | 25.29 + 11.12 = 36.41 | E | 13.4 + 6.5 = 19.9 |
| S | 5.63 + 9.14 = 14.77 | C | 2.16 + 8.16 = 10.32 |
| O | 13.4 + 4.53 = 17.93 | N | 69.3 + 73.1 = 142.4 |
| L | 5.1 + 5.2 = 10.3 | D | 13.5 + 13.9 = 27.4 |
| H | 3.4 + 4.3 = 7.7 | R | 9.85 + 7.55 = 17.4 |